ABDURAZAKOV, A.A.; ABDURAZAKOVA, F.M.; GROMOV, K.Ya.; DZHELEPOV, B.S.; UMAROV, G.Ya.

Conversion electron spectra of neutron-deficient erbium isotopes. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk 6 no.5:69-76 '62. (MIRA 15:11)

1. Tashkentskiy politekhnicheskiy institut i Ob"yedinennyy institut yadernykh issledovaniy.
(Erbium—Isotopes) (Electrons—Spectra)

DZHELEPOV, Boris Sergeyevich; PEKER, Leon Kaufmanovich; SERGEYEV, Viktor Olegovich; KHOL'NOV, Yu.V., otv. red.; BARKOVSKIY, I.V., red.izd-va; SMIRNOVA, A.V., tekhn.red.

[Decay schemes of radioactive nuclei at A > 100] Skhemy raspada radioaktivnykh iader A >100. Moskva, Izd-vo AN SSSR, 1963. 1958.p. (MIRA 16:11)
(Radioactive substances--Decay)

BELOV, L.M.; DZHELEPOV, B.S.; IVANOV, R.B.; KRIVOKHATSKIY, A.S.; NEDOVESOV, V.G.; CHECHEV, V.P.

α-Decay of Cm^{245} and Cm^{246}. Radiokhimiia 5 no.3:394-395 '63. (MIRA 16:10)

(Curium isotopes—Decay)

S/048/63/027/002/002/023
B104/B180

AUTHORS: Dzhelepov, B. S., Katykhin, G. S., Maydanyuk, V. K., and Feoktistov, A. I.

TITLE: The spectrum of Tc^{95} and Tc^{96} conversion electrons

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 2, 1963, 172-176

TEXT: The spectra of conversion electrons emitted in the decay of long-lived technetium isotopes were studied with the ketron of the Kiyevskiy universitet (Kiyev University). The technetium, obtained by irradiating molybdenum foils with 13.6 Mev deuterons, was radiochemically separated and deposited onto Al foils. The Tc^{95} conversion electron spectrum and the transition energies are given in table 1. With these data and with those of J. Unik and J. Rasmussen (Ref. 4. Phys. Rev., 115, 1687 (1959)) the decay scheme shown in Fig. 2 is obtained. The spectrum was studied 40-60 days after stopping irradiation. Tables 4 and 5 give results for Tc^{96}, for which no decay scheme could be constructed. There are

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The spectrum of Tc^{95} ...

3 figures and 5 tables.

Fig. 2. Decay scheme of Tc^{95}.
Legend: (1) 60 days.

Table 1. Transition energies and relative intensities of Tc^{95} conversion electrons.
Legend: (1) E_γ, kev; (2) Type of conversion; (3a) Relative intensities, results; (3b) Results of Ref. 4.

Table 4. Transition energies and relative intensities of conversion lines and γ-radiation.
Legend: (1) E_γ, kev; (2) Relative intensities of conversion lines; (3) Relative intensities of γ-radiation.

Table 5. Internal conversion coefficients (K-shell) and multipole type of transitions in Mo^{96}.
Legend: (1) E_γ, kev; (2) α_K; (3) Possible multipole type.

GROMOV, K.Ya.; DZHELEPOV, B.S.; ZVOL'SKA, V.; ZVOL'SKIY, I.; KALINNIKOV, V.G.

Decay of Tu^{163}. Izv.AN SSSR.Ser.fiz. 27 no.2:182-194 F '63. (MIRA 16:2)

(Thulium isotopes--Decay)

S/048/63/027/002/005/023
B104/B180

AUTHORS: Gromov, K. Ya., Dzhelepov, B. S., Zvol'ska, V., Zvol'skiy, I., Zolotavin, A. V., Pelekis, L. L., and Pelekis, Z. E.

TITLE: The Tu^{165} decay scheme

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 2, 1963, 195-199

TEXT: The decay scheme of Tu^{165} suggested in a previous work by the authors (Izv. AN SSR, Ser. fiz., 25, 1092 (1961)) was checked by $\gamma\gamma$-coincidence tests and by determining the multipole orders in the Er^{165} transitions. The spectrum of the conversion electrons was taken with a double focusing β-spectrometer in the range 5-60 kev. From the intensity ratios the multipole order for most transitions with energies be low 400 kev could be determined. The $\gamma\gamma$-coincidences were determined on a 50-channel analyzer. The decay scheme shown in the figure was constructed from the results. It is identical with that of the previous

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S/048/63/027/002/005/023
B104/B180

The Tu^{165} decay scheme

paper. There are 1 figure and 3 tables.

Fig. Tu^{165} decay scheme.
Legend: (1) 29 hours; (2) 10 hours.

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BALALAYEV, V.A.; DZHELEPOV, B.S.; MEDVEDEV, A.I.; UCHEVATKIN, I.F.

Conversion electrons emitted by $Lu^{173,174}$ in the energy range 540-1450 Kev. Izv.AN SSSR.Ser.fiz. 27 no.2:200-203 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva.

(Internal conversion (Nuclear physics))
(Lutetium isotopes)

S/048/63/027/002/007/023
B104/B180

AUTHORS: Dzhelepov, B. S., Medvedev, A. I., Uchevatkin, I. F., and Shestopalova, S. A.

TITLE: The conversion electron spectrum of the cerium fraction

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 2, 1963, 204-210

TEXT: The conversion electron spectrum of 12 quite thin samples of the first cerium fraction was investigated in the energy range 210-1000 kev by means of a double focusing magnetic β-spectrometer (180°). Most of the 42 lines of the complicated spectrum (Table 1) could be identified by measuring their intensity decay period. The half-life of Ce^{135} is 17.0 ± 0.2 hours. There are 6 figures and 2 tables.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev)

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VITMAN, V.D.; VOINOVA, N.A.; DZHELEPOV, B.S.

Relative intensities of γ-lines in Ga^{72}. Izv.AN SSSR.Ser. fiz. 27 no.2:249-257 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva i Fiziko-tekhnicheskiy institut AN SSSR im. A.F.Ioffe.
(Gamma-ray spectrometer) (Gallium isotopes)

DZHELEPOV, B.S.; MIKHAYLOV, V.M.

Possibility of γ-transitions from the levels of the $K = 3^+$ band to the levels of the main rotational band; analysis of transitions of the type in Yb^{172}. Izv.AN SSSR.Ser.fiz. 27 no.2:267-282 F '63. (MIRA 16:2)
(Ytterbium isotopes) (Quantum theory)

DZHELEPOV, B.S.; TISHKIN, P.A.; SHISHELOV, I.A.

Studying the decay scheme of Re^{184} by the method of e⁻e⁻-coincidences. Izv. AN SSSR. Ser. fiz. 27 no.10:1281-1284 O '63. (MIRA 16:10)

DZHELEPOV, B.S.; KATYKHIN, G.S.; MAYDANYUK, V.K.; FEOKTISTOV, A.I.

Spectrum of internal conversion electrons emitted in Re^{184} decay. Izv. AN SSSR. Ser. fiz. 27 no.11:1394-1401 N '63. (MIRA 16:11)

DZHELEPOV, B.S.; IVANOV, R.B.; NEDOVESOV, V.G.; CHECHEV, V.P.

α-Decay of curium isotopes. Zhur. eksp. i teor. fiz. 45 no.5:1360-1371 N '63. (MIRA 17:1)

, V. S.; VOINOVA, N. A.; DZHELEPOV, B. S.; POGACHEV, I. M.

"The Spectrum of Conversion Electrons of Ta^{182} (The Region of Low Energies)."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

LGU, FTI (Leningrad State Univ, Physico Technical Inst)

GRON... Ya.; DZHELEPOV, B. S.; YENCHEV, D. A.; ZHELEV, Zh. T.; KALINNIKOV, V. G.; ...SEVA, A. V.

Investigations of Spectra of Conversion Electrons and Spectra of Positrons of the Europium Fraction."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI, LGU (Joint Inst Nuclear Res; Leningrad State Univ)

BASILA, A. S.; BEDIKE, T.; GROMOV, K. Ya.; DZHELEPOV, B. S.; LEBEDEV, N. A.; MOROZOV, V. A. NOVGORODOV, A. F.

"Concerning the Decay of Pr^{138}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI (Joint Inst Nuclear Res)

BAL[illegible]AYEV, V. A.; DZHELEPOV, B. S.; MEDVEDEV, A. I.; MESHTEV, A.; PRAKHODTSEVA, V. P.; UCHEVATKIN, I. F.

"Concerning the Decay of La^{140}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

VNIIM, Radiyevyy Inst (All-Union Sci Res Inst of Metrology; Radium Inst)

DZHELEPOV, B. S.; MEDVEDEV, A. I.; UCHEVATKIN, I. F.; SHESTOPALOVA, S. A. 3

"New Data on the Spectrum of Conversion Electrons of $Lu^{169,170}$ in the Energy Interval 1040-3250 keV."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

VNIIM (All Union Sci Res Inst Metrology)

AL[illegible]KOV, A. A.; ABDURAZAKOV, A. A.; GNATOVICh, V.; GROMOV, K. Ya.; DZHELEPOV, B. S.

"New Data Concerning the Decay of Tm^{166}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI, Tash. PI, LGU (Joint Inst Nuclear Res; Tashkent Polytechnical Inst; Leningrad State Univ)

[redacted], V. A.; VOINOV[illegible], N. A.; DZHELEPOV, B. S.; MESHTER, A.; UCHEVATKIN, I. F.; [redacted] PALOVA, S. A.

"New Data on Conversion and the End-point Energies of Beta Spectra in the Decay of Ta^{182}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

VNIIM, FTI (All-Union Sci Res Inst Metrology, Physico Technical Inst)

..., A. G.; VOINOVA, N. A.; DZHELEPOV, B. S.; KALINICHEV, Yu. V.; KAMINKER, D. M.

"The Magnetic Gamma Spectrometer Based on Electron Recoils for the Investigation of Short-Lived Isotopes."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

FTI (Physico Technical Inst)

DZHELEPOV, B. S.; TISHKIN, P. A.; SHISHELOV, I. A.

"The Decay of the Metastable State of Re^{184} ($t_{1/2}$ = 168 d)."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

LGU (Leningrad State Univ)

VIIM..., V. D.; VOINOVA, N. A.; DZHELEPOV, B. S.

"Gamma Radiation from As^{76}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

VNIIM (All-Union Sci Res Inst Metrology im D. I. Mendeleyev)

DZHELEPOV, B. S.

"Quadrupole Moments of Excited States."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

GROMOV K. Ya.; DZHELEPOV, B. S.; ZHELEV, Zh. T.; KUDRYAVTSEVA, A. V.; LEBEDEV, N. A.

Investigations of the Positron Decay of Tm^{163}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI, LGU (Joint Inst Nuclear Res; Leningrad State Univ)

[redacted]. Ya.; DZHELEPOV, B. S.; ZHELEV, Zh. T.; KALINNIKOV, B. G.; KUDRYAVTSEVA, A. [redacted], N. A.

"Positrons from the Decay of Ho^{160}."

"Concerning the Decay of Er^{161}."

reports submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI, LGU (Joint Inst Nuclear Res; Leningrad State Univ)

ARKHIV, V. A.; GROMOV, K. Ya.; DZHELEPOV, B. S.; ZHELEV, Zh. T.; KALINNIKOV, B. G.; [illegible]TSEVA, A. V.

"Investigations of the Positron Spectra of Lu^{167}, Lu^{169}, and Lu^{170}."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

OIYaI, LGU (Joint Inst Nuclear Res; Leningrad State Univ)

DZHELEPOV, B. S.; DMITRIYEV, A. G.; ZHUKOVSKIY, N. N.; MALOYAN, A. G.

"New Data on the Gamma Spectrum of Eu^{152} ($t_{1/2}$ ~12.3 y)."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

Radiyevyy Inst (Radium Inst)

AP4010283

S/0048/64/028/001/0002/0010

AUTHOR: B.S.Dzhelepov

TITLE: Electric quadrupole moments of strongly excited states of deformed nuclei /Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev, 25 Jan to 2 Feb 1963/

SOURCE: AN SSSR, Izvestiya. Seriya fizicheskaya, v.28, no.1, 1964, 2-10

TOPIC TAGS: quadrupole moments, nuclear deformation, excited nuclei, 2^+ states, erbium 166, erbium 168, osmium 190, ytterbium 172

ABSTRACT: By now the electric quadrupole moments of many deformed nuclei in the ground state are known; there quantities vary smoothly with Z and differ little for neighboring even and odd nuclei. It is of obvious interest to determine how the deformation (i.e.,quadrupole moment) of nuclei depends on the excitation. Accordingly, the present paper gives the results of evaluation of the ratios of the quadrupole moment for the 2_2^+ state to the moment in the ground state for the even-even nuclei Er^{166}, Er^{168} and Os^{190} and for the 3_3^+ state of Yb^{172}. The evaluations are based on experimental values of the reduced probabilities for E2 transitions to the

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2_2^+ and 2_0^+ states (the method of calculation of Q_{33} for Yb^{172} is somewhat different, being based on measured lifetimes). For the above mentioned even-even nuclei the absolute values of the Q_{22}/Q_{00} ratio vary from 0.46 to 1.9; the weighted mean value for the three nuclei is 0.88 ± 0.19. The absolute value of the Q_{33}/Q_{00} ratio obtained for Yb^{172} is 1.02 ± 0.17. Thus, the results indicate that the excited states with energies of about 1 MeV of even-even deformed nuclei are characterized by approximately the same deformation as their ground states. Orig.art.has: 7 formulas, 3 tables and 4 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: NS NR REF SOV: 010 OTHER: 012

Card 2/2

AP4010293 S/0048/64/028/001/0064/0071

AUTHOR: Dzhelepov,B.S.; Medvedev,A.I.; Uchevatkin,I.F.; Shestopalova, S.A.

TITLE: Measurement of the conversion coefficient of the 1095.0 keV transition in the decay of Lu^{172}. Calculation on the constants that determine the probabilities for transitions between $K = 3^+$ and $K = 0^+$ bands /Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev, 25 Jan to 2 Feb 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.1, 1964, 64-71

TOPIC TAGS: conversion coefficient, multipole order, rotational band, lutetium 172, quadrupole moment, interband transition, spin factor, state mixing

ABSTRACT: Transition between the levels of different rotational bands form a distinctive class and hence are of interest in investigating nuclear structure. The 1095.0 and 913.8 keV transitions accompanying the decay of Lu^{172} are among the most intense transitions evinced in the decay of this nucleus and they take place between the $I^\pi = 3^+$ level of the $K = 3^+$ band and the 2^+ and 4^+ levels of the $K = 0$ rotational band. $\Delta I = 1$ (no) allows of M1 and E2 transitions; on the other hand, change of K by 3 units forbids both types of transitions, although not to the same

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degree. Hence it is of interest to know the multipole order of these transitions. Accordingly, the first part of this work was devoted to determining the multipole order of the 1095.0 keV transition. To this end the K shell conversion coefficient was measured by comparison with the γ-ray intensities and internal conversion electron abundances for the available Lu^{172} source with the corresponding values for Co^{60} and Sc^{46}, in which there are known to occur pure E2 transitions with close energies (1332 keV and 1118 keV, respectively). The γ-rays were measured by means of the two-fold focusing VNIIM β-spectrometer described by S.Shestopalova (Izv.AN SSSR,Ser.fiz.25,1302,1961; Nucl.Instr.and Meth.17,94,1962). The values obtained for α_K for the 1095.0 keV transition were $(2.8 \pm 0.4) \times 10^{-3}$ from the comparative experiments with Co^{60} and $(2.67 \pm 0.15) \times 10^{-3}$ from the experiments with Sc^{46}. Comparison of the weighted mean of these values with the theoretical α_K coefficients indicates that the transition may be pure E2, although the possibility of a mixture of E2 + M1 with up to 12% M1 is not precluded. This new information on the 1095.0 keV transition provides the basis for returning to the question of calculating the constant that determine the transition probabilities between the $K = 3^+$ and $K = 0^+$ rotational bands in Yb^{172}. This question was considered earlier by two of the authors (B.Dzhelepov and V.Mikhaylov,Izv.AN SSSR,Ser.fiz.27,267,1963), but at that time the necessary experimental data were not available. In the present paper the

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calculations are carried out in more detail and the constants entering into the expressions for the transition probability are re-evaluated. On the basis of these, certain inferences are drawn regarding the probabilities and multipole orders of analogous transitions. In the concluding section the concept of "admixture quadrupole moments" is introduced and the values of these parameters for Yb^{172} are evaluated. "We take this opportunity to express our gratitude to A.Meshter, V.A.Balalyev, L.I.Shalayeva for assistance in the measurements, graduate student of Leningrad University A.S.Lenin for help in the measurements and processing the results, and N.M. Anton'yeva and V.B.Smirnov for making available the scintillation spectrometer for the measurements." Orig.art.has: 14 formulas, 4 tables and 1 figure.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology)

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: NS NR REF SOV: 005 OTHER: 006

Card 3/3

ACCESSION NR: AP4024039 S/0048/64/028/002/0222/0226

AUTHOR: Vitman, B.D.; Voinova, N.A.; Dzhelepov, B.S.

TITLE: Gamma radiation from As^{76} /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14 to 22 Feb. 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.2, 1964, 222-226

TOPIC TAGS: γ-ray spectrum, γ-transition, As^{76}, As^{76} decay

ABSTRACT: The present study was undertaken with a view to obtaining more accurate values for the relative intensities of the γ-rays from As^{76} and to search for weak γ-lines not observed hitherto. Nine sources with initial activities from 20 to 40 Curie were prepared by irradiating 1 g samples, sealed in quartz tubes, in the Physico-technical Institute reactor; the initial material was spectroscopically pure metallic arsenic. The γ-spectrum was investigated on the Elotron (recoil γ-spectrometer) of the All-Union Scientific Research Institute of Metrology under standard conditions (V.D.Vitman, N.A.Voinova and B.S.Dzhelepov, Izv.AN SSSR,Ser.fiz.27,249, 1963). The experimental spectrum and its resolution into components is presented in five figures. In all there were detected 25 γ-lines, including several not clearly

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ACCESSION NR: AP4024039

observed hitherto (the 510 keV γ-rays reported by G.Backstrom and J.Marklund (Arkiv. fys.17,393,1960) were not observed). The energy and intensity values are tabulated and compared with the data of earlier investigators. In general, the energy values obtained in the present investigation agree with the data of Backstrom and Marklund; there is also good agreement as regards the intensities of the strong lines. Divergences as regards the intensities of some of the weaker lines are attributed to the strong Compton background in the spectrometer employed by Backstrom and Marklund. Not all the newly detected lines can be accommodated in the decay scheme proposed by Backstrom and Marklund, but the present data are inadequate for proposing a more comprehensive decay scheme. Orig.art.has: 5 figures and 1 table.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut metrologiy im. D.I.Mendeleyeva (All-Union Scientific Research Institute of Metrology); Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademiy nauk SSSR(Physicotechnical Institute, Academy of Sciences, SSSR)

SUBMITTED: 20Sep63 DATE ACQ: 08Apr64 ENCL: 00

SUB CODE: NS NR REF SOV: 003 OTHER: 002

Card 2/2

L 14491-65 EWT(m) DIAAP/SSD/AFWL/ASD(a)-5/ESD(gs)/ESD(t)

ACCESSION NR: AP4048634 S/0048/64/028/010/1631/1636

AUTHOR: Dzhelepov, B.S.; Tishkin, P.A.; Shishelov, I.A. 19 B

TITLE: Decay of the 169-day metastable state of Re^{184} /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi, 14-22 Feb 1964/

SOURCE: AN SSSR. Ivz. Seriya fizicheskaya, v.28, no.10, 1964, 1631-1636

TOPIC TAGS: metastable state, electron conversion, electron spectrum, beta decay, nuclear spectroscopy, rhenium

ABSTRACT: The conversion electron spectrum of a cyclotron irradiated tungsten target was examined during a period of 18 months in order to obtain information concerning the decay of the 169-day metastable state of Re^{184}. A double toroidal β-spectrometer with a resolution of 1.5% was employed, and coincidences were counted with a "fast-slow" circuit having a resolving time of 10 nanosec. Nine conversion peaks were observed in the energy range from 25 to 125 keV, of which four fell off in intensity with a period close to 169 days. Many of the observed peaks were revealed by their decay and their coincidence behavior to be complex. A number of transitions in Re^{184}, W^{184} and W^{183} were identified (some tentatively) and informa-

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L 14491-65
ACCESSION NR: AP4048634

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tion concerning their multipolarities was obtained from the intensity ratios. It was established that the decay of the metastable state of Re^{184} is complex, but the data are too scanty for construction of a decay scheme. Transitions of 55 and 163 keV energy in Re^{184} were observed in coincidence. The sum of these energies corresponds closely to the energy of the 217 keV γ-rays observed by N.R.Johnson (Bull. Amer.Phys.Soc.6,73,1961; Phys.Rev.129,1737,1963), who also detected 163 keV γ-rays. These transitions were of low multipolarity and accordingly connect states with close spin values. "In conclusion we express our gratitude to A.I.Feoktistov for providing the material for the source, and S.F.Koksharova for assistance in the measurements." Orig.art.has: 4 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 009

OTHER: 002

2/2

L 14489-65 EWT(m) DIAAP/AFWL/ASD(a)-5/SSD/ASD(f)-2/ASD(m)-3/ESD(gs)/ESD(t)
ACCESSION NR: AP4048642 S/0048/64/028/010/1704/1710

AUTHOR: Balalayev,V.A.; Voinova,N.A.; Dzhelepov,B.S.; Meshter,A.;Shestopalova,S.A. B

TITLE: New data on the conversion electron spectrum of Ta^{182} in the energy region above 820 keV /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izv.Seriya fizicheskaya, v.28, no.10, 1964, 1704-1710

TOPIC TAGS: nuclear physics, beta spectrum, electron conversion, nuclear spectroscopy, tantalum

ABSTRACT: The conversion electron spectrum of 115 day tantalum 182 was investigated with a double $\pi\sqrt{2}$ focusing β-spectrometer described elsewhere by one of the authors (S.A.Shestopalova,Izv.AN SSSR,Ser.fiz.25,1302,1961). The measurements were undertaken in order to record the spectrum at energies above 1220 keV, where it has not previously been adequately investigated. The source was a tantalum film vacuum evaporated onto an aluminum backing. It was activated with thermal neutrons and was examined four months later. Thirty eight conversion lines with energies from 822 to 1387 keV were detected and identified; 20 of these had not previously been reported.

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The observed lines and their relative intensities are tabulated, and the data are also presented graphically with the statistical errors shown. The relative intensities are compared with those obtained by V.S.Gvozdev et al.(Izv.AN SSSR,Ser.fiz. 24,1444,1960), S.S.Vasilenko et al. (Izv.AN SSSR,Ser.fiz.25,61,1961), L.N.Kondrat'yev et al. (Preprint ITEF 494,1963), and S.V.Starodubtsev et al. (Zhur.eksp.i teor. fiz.45,921,1963). The present data, except for three lines, are in very good agreement with those of Kondrat'yev et al., and they are in satisfactory agreement with those of Gvozdev et al. and with those of Vasilenko et al. There are large unsystematic deviations from the relative intensities reported by Starodubtsev et al.

"The authors take the occasion to express their deep gratitude to coworkers G.S. Novikov of the LGU and V.V.Pavlov of the FTI for assistance in preparing the source, to coworkers A.I.Medvedev and L.I.Shalayeva of the VNIIM for assistance in the measurements, and to student-diplomatist A.B.Andrezen of the LPI for assistance in reducing the data." Orig.art.has: 9 figures and 1 table.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910005-0"

L 14489-65
ACCESSION NR: AP4048642

2

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology); Fiziko-tekhnicheskiy institut im.A.F.Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences, SSSR)

SUBMITTED: 00 ENCL: 00

SUB CODE: NP NR REF SOV: 008 OTHER: 003

3/3

ACCESSION NR: AP4031176 S/0056/64/046/004/1478/1478

AUTHOR: Balalayev, V. A.; Dzhelepov, B. S.; Medvedev, A. I.; Meshter, A.; Uchevatkin, I. F.

TITLE: Half-lives of ground and isomeric states of Lu-174

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1478

TOPIC TAGS: lutecium, half life, isomeric transition, conversion electron spectrum

ABSTRACT: Following an earlier measurement of the conversion electron spectrum of $Lu^{173,174}$ (Izv. AN SSSR ser. fiz. v. 27, 200, 1963), the measurements were repeated of the 994 and 1243 keV transitions in Lu^{174} with the same source. In the 340 days elapsed between the two series of measurements, the 1243-keV K-line intensity had hardly changed (half-life greater than 800 days), but the 994 keV K-line intensity had decreased with a half-life of 150 ± 40 days. To determine which of the half-lives corresponds to the ground state and which to the isomeric state, the half-life of the L-line intensity of the 59.1 and 67.1 keV transitions was estimated and found to be less than 200 days, which disagrees with the data of O. D. Kovrigin and G. D. Laty*shev (Spektrometer s dvoynoy fokusirovkoy, Izd. AN Kaz. SSR, Alma-Ata,

Card 1/2

ACCESSION NR: AP4031176

1962, pp 35--41) who estimated it to be 1300 days. The results of the investigations lead to the following conclusions: (1) the ground state of Lu^{174} decays with a half-life of 1300 days; (2) the isomeric state of Lu^{174} decays with a half-life of 140 days; (3) the 1243-keV transition is excited from the ground state; (4) the 994-keV transition is excited from the isomeric state. "The authors are grateful to S. A. Shestopalova for a discussion of the measurement results."

ASSOCIATION: Vsesoyuzny*y institut metrologii im. D. I. Mende-eyeva (All-Union Institute of Metrology)

SUBMITTED: 26Jul63 DATE ACQ: 07May64 ENCL: 00

SUB CODE: MP NR REF SOV: 003 OTHER: 002

Card 2/2

ACCESSION NR: AP4031177 S/0056/64/046/004/1479/1480

AUTHOR: Vitman, V. D.; Dzhelepov, B. S.; Podkopayev, Yu. N.

TITLE: High energy gamma transitions in Ga-72 decay

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1479-1480

TOPIC TAGS: gallium, gamma line, gamma ray spectrum, gamma ray intensity, line spectrum, decay scheme, half life

ABSTRACT: The Ga^{72} γ spectrum was investigated in the energy range above 2000 keV using the γ hodoscope of NIFI LGU. Two Ga^{72} specimens were used, with activity ~ 3 and 5 Curie. In addition to the previously known lines, γ rays with energy 3,680 ± 40 keV, were with a half life (13 ± 3 hours) that indicates that they belong to the Ga^{72} γ spectrum, were observed for the first time in the Ga^{72} decay. The investigations show that in Ga^{72} decay there are no transitions with higher energies, whose intensity would exceed 2×10^{-7} photons per disintegration. The γ ray spectrum of Ga^{72} was also investigated in the 3000 -- 4000 keV range with a scintillation γ spectrometer, and the existence of low-intensity 3700 keV γ rays was confirmed. Orig. art. has: 1 figure and 1 table.

Card 1/4

ACCESSION NR: AP4031177

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet (Leningrad State University)

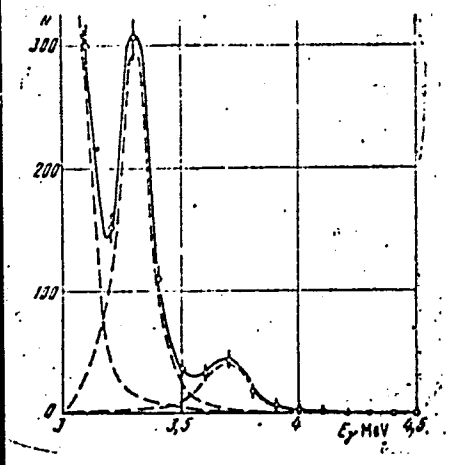
SUBMITTED: 27Jul63 DATE ACQ: 07May64 ENCL: 02

SUB CODE: NP NR REF SOV: 001 OTHER: 003

Card 2/4

ACCESSION NR: AP4031177

ENCLOSURE: 01



Experimental spectrum of γ rays of Ga^{72}

Experimental spectrum of γ rays of Ga^{72} in the 3000-4000 keV range.

N - number of frames
solid curve - sum of spectral component
o - experimental points of histogram

Card 3/4

ACCESSION NR: AP 4031177

ENCLOSURE: 02

E, keV	Интенсивности γ-переходов, 10^{-4} квантов/распад 1			
	[*]	[*]	[*]	Наши данные 2
2976	—	—	7±2	9,8±2,0
3050	13	—	~2	0,7
3100	—	4	<1	
3340	3	2	—	0,75±0,22
3680	—	—	—	0,05±0,02

1 - intensity of γ transitions, 10^{-4} quanta per decay

2 - our data

Card 4/4

ACCESSION NR: AP4037560 S/0056/64/046/005/1517/1524

AUTHORS: Dzhelepov, B. S.; Ivanov, R. B.; Nedovesov, V. G.

TITLE: Alpha decay of Pu-241

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1517-1524

TOPIC TAGS: plutonium, Alpha decay, Alpha particle spectroscopy, level transition, decay scheme,

ABSTRACT: The α spectrum of Pu^{241} was investigated with a magnetic α spectrometer with beam focusing at an angle $\pi\sqrt{2}$. The measurement procedure was similar to that used for curium earlier (ZhETF v. 45, 1360, 1963). The data obtained on the relative intensities of the α transitions in each plutonium isotope (table 1), together with resolution of some of the lines, yield 3 level schemes for the α decay of Pu^{241} and Cm^{243}. Several arguments are advanced against one of the

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ACCESSION NR: AP4037560

levels (level a) and in favor of the other (level b). Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 22Jun63 DATE ACQ: 09Jun64 ENCL: 02

SUB CODE: NP NR REF SOV: 003 OTHER: 010

Card 2/4

ACCESSION NR: AP4037560

ENCLOSURE: 01

Tabulated experimental results

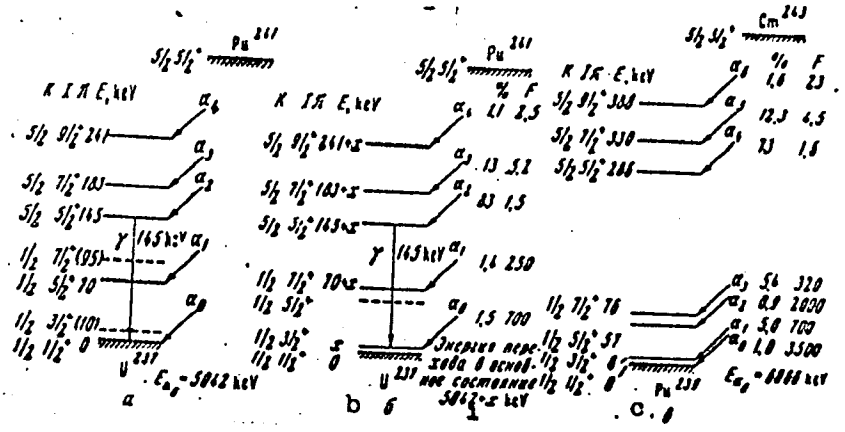
1 № линии	2 Изотоп плутония, которому приписан α-переход	Табличные значения [*,+] 3 E_α, keV	4 относительная интенсивность в данном изотопе, %	5 Наши данные E_α, keV	6 относительная интенсивность в данном изотопе, %
1	Pu^{241}			5042±4	1,5±0,5
2	Pu^{240}	5020	0,1	5020	0,1
3	Pu^{241}			4973±4	1,4±0,3
4	Pu^{242}	4908	76	4904±3	75±2
5	Pu^{239}	4893	75	4899±4	83±8
6	Pu^{241}	4848	25	4862±4	13±3
7	Pu^{242}	4853	24	4859±3	25±2
8	Pu^{241}			4805±4	1,1±0,3

1 - line number, 2 - isotope to which the alpha transition is assigned, 3 - tabulated values, 4 - relative intensity in the given isotope, per cent, 5 - our data

Card 3/4

ACCESSION NR: AP4037560

ENCLOSURE: 02



Variants of alpha-decay schemes of Pu^{241} (a and b) and of Cm^{243}(c).
1 - Energy of transition to ground state 5042 + x keV

Card 4/4

L 22921-66 EWT(m)/EPF(n)-2/EWP(t)/EWA(h) DIAAP JD/WW/JG

ACC NR: AP6014822 SOURCE CODE: UR/0367/65/001/006/0941/0947

AUTHOR: Dzhelepov, B. S.; Zhukovskiy, N. N.--Zhukovsky, N. N.; Maloyan, A. G.--Malayan, A. G.

ORG: none

TITLE: Gamma-spectrum of Eu sup 152* with a 9.2-hour half-live

SOURCE: Yadernaya fizika, v. 1, no. 6, 1965, 941-947

TOPIC TAGS: europium, gamma spectrum, samarium, spectrometer

ABSTRACT: The relative intensities of 13 γ-lines from Eu^{152*} are determined with the aid of magnetic photoritron and elotron spectrometers (the error in the basic line intensities does not exceed 6%). Four new Eu^{152*} γ-lines which must be added to the decay scheme are found. A new excitation level with an energy of 1680 KEV is found in Sm^{152}. A deviation from the Alaga (sic) rules is noted when the 1511 KEV (1^-) level degenerates to the 2^+ or 0^+ rotation bands of the ground state. The authors thank Ye. A. Khol'novaya for the calorimetric measurements of the preparations Au^{198} and Sc^{46}; Yu. V. Khol'nov for making possible the research of gamma-spectrum Eu^{152*} on photoritron; E. A. Arutyunyan for help with the measurements and with the processing of the experiments on photoritron; A. G. Dmitriyev, V. F. Rodionov, and T. I. Sidorovaya for assistance in measuring the elotron. Orig. art. has: 5 figures and 1 table. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 31Nov64 / ORIG REF: 004 / OTH REF: 006

Card 1/1

L 60942-65 EWT(m) Peb DIAAP

ACCESSION NR: AP5014322 UR/0367/65/001/005/0937/0939

AUTHORS: Vitman, V. D.; Dzhelepov, B. S.; Yefremova, V. Ya. 12 1 B

TITLE: Positrons from Lu-171 19

SOURCE: Yadernaya fizika, v. 1, no. 5, 1965, 937-939

TOPIC TAGS: lutecium, positron decay, annihilation radiation, Gamma Gamma coincidence

ABSTRACT: In view of the discovery made by V. A. Balalayev et al. (Materialy soveshchaniya po spektroskopii neytronodefitsitnykh izotopov i teorii yadra [Materials of Conference on the Spectroscopy of Neutron Deficient Isotopes and Nuclear Theory] Dubna, 1964) that positronic decay of Lu^{171} is possible, the authors searched for positrons from Lu^{171} by detecting the annihilation radiation, with the VNIIM $\gamma\gamma$-coincidence scintillation spectrometer. The source was Lu^{171} separated chromatographically after 20 hours from the hafnium fraction produced by irradiating tantalum with 660-MeV protons. The

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L 60942-65

ACCESSION NR: AP5014322 3

measurements started one month after separation of the Lu. The measurements disclosed positron activity in the source, and it is deduced from the ratio of the counting rates of the $\gamma\gamma$ coincidences at angles 180 and 90° that the observed positrons belong to Lu^{171}. 'We thank I. G. Zaytseva for preparing the source and S. A. Shestopalova for a discussion of the results.' Orig. art. has: 2 formulas

ASSOCIATION: Institut metrologii im. D. I. Mendeleyeva (Institute of Metrology)

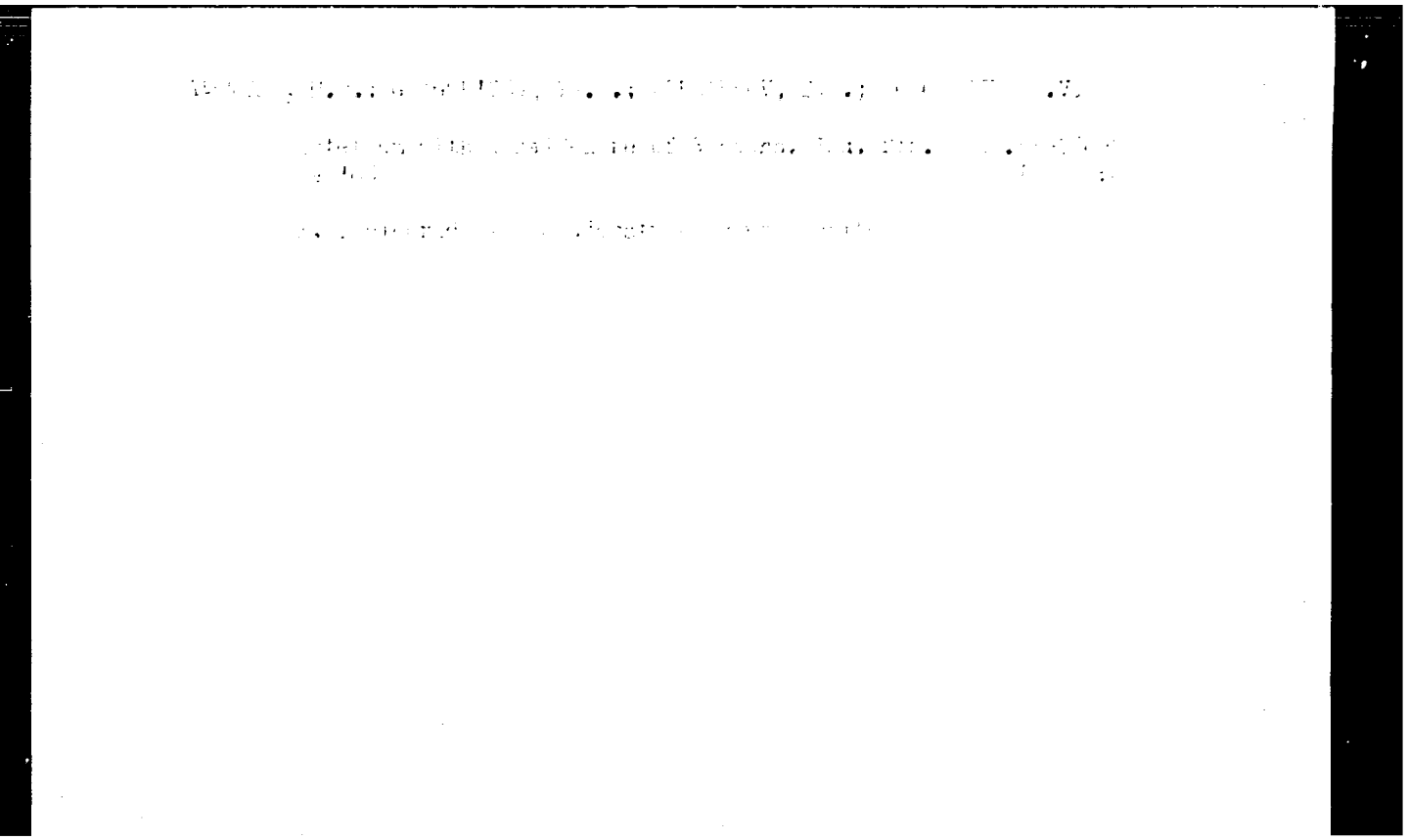
SUBMITTED: 26Nov64 ENCL: 00 SUB CODE: NP

NR REF SOV: 000 OTHER: 007

Card 2/2

DZHELEPOV, B.S.; ZHUKOVSKIY, N.N.; MALOYAN, A.G.

Gamma spectrum of Eu^{152*} having a half-life of 9.2 hours.
IAd. fiz. 1 no.6:941-947 Je '65. (MIRA 18:6)



L 65203-65 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c) JD/JG

ACCESSION NR: AP5021737 UR/0386/65/002/002/0097/0099

AUTHOR: Vitman, V. D.; Dzhelepov, B. S.; Sergeyev, A. G.

TITLE: Energies and relative intensities of 2201, 2490 and 2508 kev γ-lines in the Ga^{72} spectrum

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 2, 1965, 97-99

TOPIC TAGS: gamma spectroscopy, gamma spectrum, gallium, isotope

ABSTRACT: The γ-spectrum of Ga^{72} has previously been studied in detail with respect to photoelectrons on a double focusing spectrometer, and with respect to recoil electrons on the VNIIM elotron. However, data in the literature on the intensities of strong stable lines show discrepancies of 20-60%, which far exceeds the measurement errors. In addition, these lines are convenient for use in graduating γ-spectrometers for intensities and energies. The authors measured the 2201, 2490 and 2508 kev γ-lines in Ga^{72} on the FTI elotron to determine their energies and intensities more precisely. The shape of the 2201 kev line was used to resolve the 2490 + 2508 doublet into its components (see fig. 1 of the Enclosure), since it was

Card 1/4

L 65203-65
ACCESSION NR: AP5021737

3

previously shown that the shape of the line at $h\nu \geq 1.5$ Mev is independent of the energy. The results are shown in table 1 of the Enclosure. The results are also compared with those of other authors in this same table. Orig. art. has: 1 figure, 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physico-technical Institute, Academy of Sciences SSSR) 44,55

SUBMITTED: 02Jun65 ENCL: 02 SUB CODE: OP

NO REF SOV: 002 OTHER: 002

Card 2/4

L 65203-65
ACCESSION NR: AP5021737 ENCLOSURE: 01

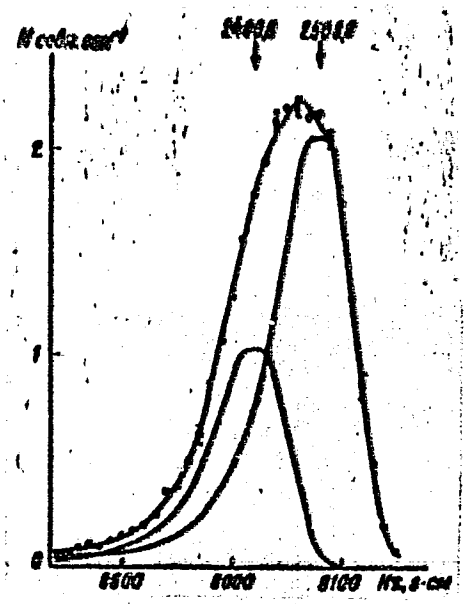


Fig. 1. (no caption)

Card 3/4

L 65203-65
ACCESSION NR: AP5021737

ENCLOSURE: 02

Table 1

Energy and relative intensities of 2201, 2490 and 2508 kev γ-lines in Ga^{72}

Data of the authors		[1]	[2]		[3]	
E_γ, kev	I_{rel}	E_γ, kev	E_γ, kev	I_{rel}	E_γ, kev	I_{rel}
2201.3±0.6	100		2201	100	2205±4	100
2490.6±1.8	25.4±1.7	2491±3	2490	33.4	2490±5	23.8±2.2
2508.6±1.0	50.5±1.6	2508±2	2508	56.5	2508±5	51.7±3.3

[1] A. Hedgran, D. Lind, *Arkiv fiz.*, 5, 177, 1952.
[2] M. W. Johns, B. Chidley, J. R. Williams, *Phys. Rev.*, 99, 1645A, 1955.
[3] V. D. Vitman, N. A. Volnova, B. S. Dzhelepov, *Izv. AN SSSR, ser. fiz.*, 27, 249, 1963.

Card 4/4

L 3177-66 EWT(m) DIAAP

ACCESSION NR: AP5013992 UR/0048/65/029/005/0714/0720 35 29 B

AUTHOR: Dzhelepov, B.S.; Tishkin, P.A.; Shishelov, I.A. 44,55 44,55 44,55 19

TITLE: New data on the decay of the isomeric state of rhenium 184 /Report, 15th Annual Conference on Nuclear Spectroscopy and the Structure of the Atomic Nucleus held in Minsk, 25 Jan-2 Feb 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.5, 1965, 714-720

TOPIC TAGS: isomeric transition, rhenium, tungsten, internal conversion, nuclear spectroscopy 27 55,44,27

ABSTRACT: This paper reports a continuation of the authors' investigations of the decay of 167-day Re^{184*} (Izv.AN SSSR.Ser.fiz.27,1282 (1963); 28,1631 (1964); Program of the 14th Annual Conference on Nuclear Spectroscopy, p.68, Izd."Nauka",1964). The investigation was conducted by the conversion electron coincidence method with the Leningrad State University double toroidal beta spectrometer. The mea-

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ACCESSION NR: AP5013998

surements were started 20 month after activation of the sample; there was therefore no appreciable 68-day Re^{183} contamination. The conversion electrons were observed in the energy range from 25 to 170 keV. The conversion electron spectrum and several coincidence spectra are presented graphically and are discussed in some detail. The tentative decay scheme to which the authors were led is shown in the enclosure. The 64 keV transition in W^{184} has not been previously reported. This transition is difficult to observe in the conversion electron singles spectrum because of the proximity of the L64 line to the (M + N)55 W^{184} lines and of the (M + N)64 lines to the strong L84 Re^{184} line; it was observed by coincidences of L64 and (M + N)64 with LIII W^{184} conversion electrons. The 1223 and 1287 keV W^{184} levels between which this transition is presumed to occur were identified and the spins and parities assigned by B.Harmatz and T.H.Handley (Nucl. Phys.56,1,1964). Prompt and delayed coincidences between the LIII W^{184} conversion electrons and conversion electrons from the 55, 168 and 217 keV W^{184} transitions were sought and not found. From this it is concluded that W^{184} has a previously unreported isomeric state

L 3177-66

ACCESSION NR: AP6013992 6

with a half life greater than 5 x 10^{-6} sec. If the enclosed decay scheme is correct, the long-lived state is the 1287 keV 5$^-$ state. "The authors express their gratitude to L.K.Peker for his interest in the work and for a discussion of the results." Orig.art.has: 6 figures.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy ins itut Leningradskogo gosudarstvennogo universiteta (Scientific Research Physics Institute, Leningrad State University)

SUBMITTED:00 ENCL: 01 SUB CODE: NP

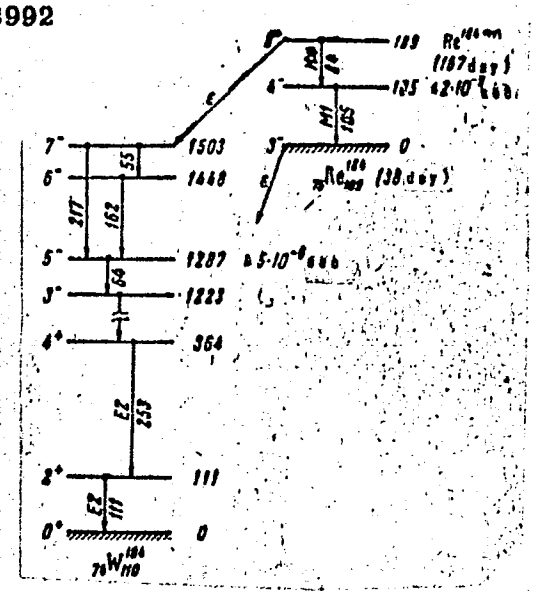
NR REF SOV: 006 OTHER: 002

Card 3/4

L 3177-66

ACCESSION NR: AP5013992

ENCLOSURE 01



Partial decay scheme of Re^{184m}

Card 4/4 md

DZHELEPOV, B.S.; KAUFMAN, V.Z.; KRAFT, O.Ye.; NAUMOV, Yu.V.

Measurement of $\beta^+\gamma$-coincidences in $Tu^{166} \xrightarrow{\varepsilon, \beta^+} Er^{166}$ decay. Izv. AN SSSR. Ser. fiz. 29 no.7:1079-1082 Jl '65. (MIRA 18:7)

ARUTYUNYAN, E.A.; DZHELEPOV, B.S.; KHOL'NOV, Yu.V.; SHCHUKIN, G.Ye.

Gamma-ray spectrum of Sb^{122}. Izv. AN SSSR. Ser. fiz. 29 no.7:1107-1111 Jl '65. (MIRA 18:7)

BALALAYEV, V.A.; DZHELEPOV, B.S.; MESHTER, A.; SHESTOPALOVA, S.A.

Spectrum of conversion electrons from Eu^{146} in the energy range of 750 — 1550 Kev. Izv. AN SSSR. Ser. fiz. 29 no.7:1112-1120 Jl '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva.

ARUTYUNYAN, E.A.; DZHELEPOV, B.S.; KHOL'NOV, Yu.V.

Spectrum of gamma rays from Ce^{143}. Izv. AN SSSR. Ser. fiz. 29 no.7: 1127-1130 Jl '65. (MIRA 18:7)

L 21083-65 EWT(m) DIAAP/AFWL/SSD
ACCESSION NR: AP5001981 S/0020/64/159/006/1252/1254

AUTHORS: Anton'yeva, N. M.; Dzhelepov, B. S. (Corresponding member AN SSSR); Katykhin, G. S.; Smirnov, V. B.

TITLE: Investigation of the decay of Rh-100 //

B

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1252-1254

TOPIC TAGS: rhenium, radioactive decay, magnetic spectrometry, gamma transition, gamma gamma coincidence, conversion line

ABSTRACT: The emission from the isotope Rh^{100} was investigated with the aid of a "ketron" type magnetic spectrometer with scintillation recording of the electrons ($\Delta H\zeta/H\zeta = 0.5\%$) and with scintillation γ spectrometers used singly, doubly, and to measure total absorption with NaI crystals in a barrel. The isotope Rh^{100} was obtained either from the reaction Ag + p (660 MeV) or as the daughter product of the decay

Card 1/3

L 21083-65
ACCESSION NR: AP5001981

$$Pd^{100} \xrightarrow{3.7d} Rh^{100} \xrightarrow{20.8h} Ru^{100}.$$

The observed transitions were identified by observing the growth and decrease in the intensities of the γ lines and some conversion lines in the Pd and Rh fractions. The authors observed approximately 16 new γ transitions belonging to the decay of Rh^{100} and it is pointed out that previously observed lines actually constitute groups of lines. The research covered in detail the energy range from 200 to 2500 keV. A complete level scheme and tables of the γ transition energies and the results of the investigation of the γ-γ coincidence spectra are presented. Orig. art. has: 2 tables and 1 figure.

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet im. A. A. Zhdanova (Leningrad State University)

Card 2/3

L 21083-65
ACCESSION NR: AP5001981

0

SUBMITTED: 26Sep64

ENCL: 00

SUB CODE: NP

NR REF SOV: 001

OTHER: 002

Card 3/3

VITMAN, V.Z., VOINOVA, N.A.; DZHELEPOV, B.S.

Determining the intensities and multipolarity of high-energy gamma-transitions accompanying Tm^{169} decay. Izv. AN SSSR. Ser. fiz. 26 no.3:393-401 Mr '62. (MIRA 15:9)

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR i Institut metrologii im. D.I. Mendeleyeva.

L 26932-65 EWT(m) DIAAP
ACCESSION NR: AP5004190 S/0020/65/160/001/0057/0060

AUTHORS: Anton'yeva, N. M.; Dzhelepov, B. S. (Corresponding member AN SSSR); Nikitin, M. K.; Smirnov, V. B.

14
13
13

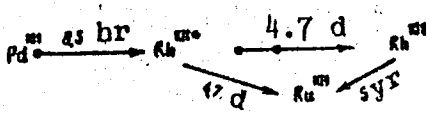
TITLE: Investigation of the decay of Pd-101, Rh-101*, and Rh-101.

19 19

SOURCE: AN SSSR. Doklady, v. 160, no. 1, 1965, 57-60

TOPIC TAGS: palladium, rhodium, decay scheme, gamma transition

ABSTRACT: The decay of Pd^{101}, Rh^{101*}, and Rh^{101}, in accordance with the scheme



Card 1/2

was investigated with the aid of a magnetic spectrometer of the "ketron" type (resolution 0.5%) with the electrons registered with the aid of scintillation gamma spectrometers: single, double (for the study of gamma-gamma coincidences), and "total absorption" spectrometer with a 70 x 70 mm NaI crystal in a barrel. The target preparation methods and the precautions taken to exclude background are described. The gamma transitions belonging to the various decays were identified and the level schemes included in the enclosures are proposed. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova (Leningrad State University)

SUBMITTED: 26Sep64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 004

ABDUMALIKOV, A.A.; ABDURAZAKOV, A.A.; GNATOVICH, V.; CHUMOV, K.Ya.; DZHELEPOV, B.S.

Spectra of conversion electrons from the isotopes Tu^{166}, Yb^{164}, Tu^{164}, and Tu^{162}. Izv. AN Uz. SSR. Ser.fiz.-mat. nauk 9 no.6:56-63 '65. (MIRA 19:1)

1. Ob"yedinennyy institut yadernykh issledovaniy i Tashkentskiy politekhnicheskiy institut. Submitted July 31, 1964.

SERGEYEV, A.G.; VOINOVA, N.A.; DZHELEPOV, B.S.; KALINICHEV, Yu.V.; KAMINKER, D.M.

Magnetic Compton spectrometer for analyzing short-lived isotopes. Prib. i tekh.eksp. 10 no.5:48-53 S-O '65. (MIRA 18:11)

1. Fiziko-tekhnicheskiy institut AN SSSR, Leningrad.
Submitted Sept.18, 1964.

AVOTINA, M.P.; GRIGOR'YEV, Ye. P.; DZHELEPOV, B.S.; ZOLOTAVIN, A.V.

Auger electrons from Er^{160} and Ho^{160}. Izv. AN SSSR. Ser. fiz. 29 no.7: 1098-1102 Jl '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta.

DZHELEPOV, B.S.; PRIKHODTSEVA, V.F.; TISHKIN, P.L.; SHISHLOV, I.A.

Double toroidal β-spectrometer for studying ee and βe-coincidences. Izv. AN SSSR. Ser. fiz. 29 no.12:2157-2162 D '65.
(MIRA 19:1)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta i Radiyevyy institut AN SSSR.

DZHELEPOV, B.S.; KRAFT, O.Ye.; NAUMOV, Yu.V.

Magnetic $\beta\gamma$-spectrometer of coincidences. Izv. AN SSSR. Ser. fiz. 29 no.12:2163-2167 D '65. (MIRA 19:1)

BALALAYEV, V.A.; DZHELEPOV, B.S.; MEDVEDEV, A.I.; [illegible]; SHESTOPALOVA, S.A.

Recent data on Ce^{135} decay. Izv. AN SSSR. Ser. fiz. 29 no.12: 2204-2224 D '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva.

BALALAYEV, V.A.; DZHELEPOV, B.S.; MEDVEDEV, A.I.; MESHTER, A.; PRIKHODTSEVA, V.P.; UCHEVATKIN, I.F.

Recent data on the spectrum of conversion electrons from La^{140}. Izv. AN SSSR. Ser. fiz. 29 no.12:2250-2254 D '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva i Radiyevyy institut im. V.G. Khlopina AN SSSR.

DZHELEPOV, B.S.; MOSKVIN, L.N.; TISHKIN, P.A.; UCHEVATKIN, I.P.; SHISHELOV, I.A.

Coincidences of conversion electrons in Ce^{135} decay. Izv. AN SSSR. Ser. fiz. 29 no.12:2264-2270 D '65. (MIRA 19:1)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta im. A.A. Zhdanova i Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I. Mendeleyeva.

L 2743-66 EWT(m)/EWP(t)/EWP(b) DIAAP/ESD(c) JD/JG
ACCESSION NR: AP5024328 UR/0367/65/002/002/0204/0210

AUTHOR: Basina, A. S.; Bedike, T. ; Gromov, K. Ya.; Dzhelepov, B. S.; Morozov, V. A.; Novgorodov, A. F.

TITLE: γ-Rays from Tu^{164}. The 0^+-level in Er^{164}

SOURCE: Yadernaya fizika, v. 2, no. 2, 1965, 204-210

TOPIC TAGS: thulium, erbium, radioisotope, gamma ray, radioactive decay scheme

ABSTRACT: The coefficients of internal conversion are found for several transitions in Er^{164} by comparison of the experimentally determined relative intensities of γ-rays from Tu^{164} with the intensities of conversion lines given in the literature. The method of isotope separation is briefly described. A γ-scintillation spectrometer with a 40 × 40 mm thallium-activated sodium iodide crystal was used for measuring the γ-spectrum. The measurements were begun approximately six minutes after separation of the Tu. The spectrum was graphically analyzed to determine the relative intensities of the γ-rays. The results are tabulated for energies from 500 to 2500 kev and compared with data in the literature on the spectrum of conversion electrons in this energy region. The decay scheme for Tu^{164} is

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briefly discussed (see fig. 1 of the Enclosure). The experiment shows that the multipole order of the 773 kev transition is *E2* with possibly a slight admixture of *M1* (no more than 20% *M1*). It is assumed that the 1248 kev transition belongs to the 0^+-0^+ category. In this case, the 1157 kev transition from the 1248 kev level to the first excitation level of the ground state rotational band should be an *E2* transition. It is found that the γ-vibrational level (2^+) in Er^{164} has an energy of 862 kev. The 0^+ level observed at 1248 kev may be the first level in the β--vibrational band in Er^{164}. This value agrees well with the theoretically calculated value of ~1.3 Mev. Orig. art. has: 3 figures, 3 tables.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research); Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 12Mar65 ENCL: 01 SUB CODE: NP

NO REF SOV: 007 OTHER: 002

L 2743-66
ACCESSION NR: AP5024328

ENCLOSURE: 01

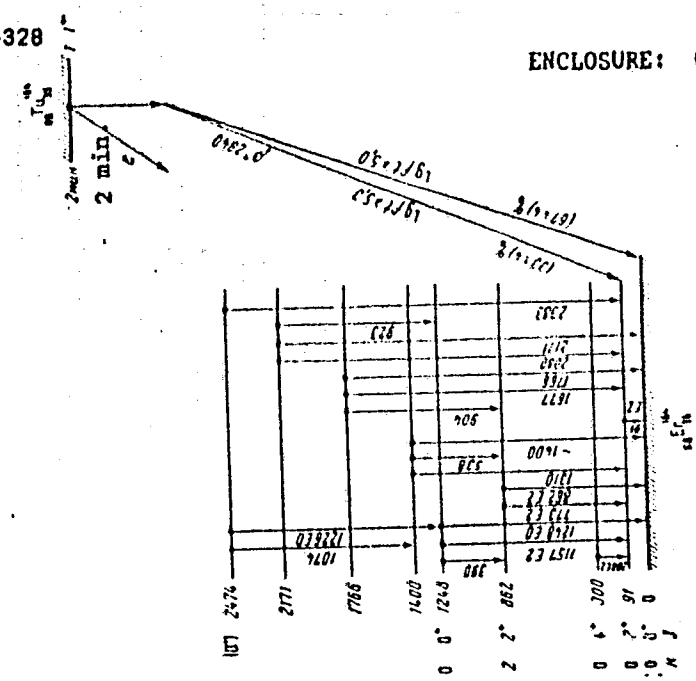

Fig. 1. Tu^{164} decay scheme.

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BALALAYEV, V.A.; VOINOVA, N.A.; DZHELEPOV, B.S.; MOSKVIN, L.N.; SHESTOPALOVA, S.A.

On the β-decay of Ta^{182} with an energy above 600 Kev. Izv. AN SSSR. Ser.fiz. 30 no.1:126-131 Ja '66.

(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva i Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

DZHELEPOV, E.

"The K. Marx Factory is Growing Up", p. 2. (TEKHNICHESKO DELO, Vol. 5, no. 110, Sept. 1953, Sofiya, Bulgaria).

SO: Monthly List of East European Accessions, LC, Vol. 3, No. 4, April 1954.

L 23017-66 EWT(m)/EPF(n)-2/EWP(t)/EWA(h) JD/WW/JG

ACC NR: AP6014823 SOURCE CODE: UR/0367/65/001/006/0958/0960

AUTHOR: Avotina, M. P.; Grigor'yev, Ye. P.--Grigoryev, E. P.; Dzhelepov, B. S.; Zolotavin, A. V.

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: Three-hour activity of lutetium 71

SOURCE: Yadernaya fizika, v. 1, no. 6, 1965, 958-960

TOPIC TAGS: lutetium, isomer, tantalum, proton

ABSTRACT: The presence of the isomer Lu^{176m} among the products of the deep splitting of tantalum by 660 MEV protons is confirmed. The L_{II}-, L_{III}-, M_{II}-, M_{III}-, and N-line intensities of the 88.37 ± 0.03 KEV transition in Hf^{176} were measured. The authors thank K. Ya. Gromov for discussions of the results; N. A. Lebedev for the separation of the lutetium particles; V. Ye. Ter-Nersesyants and G. A. Mironov for assistance with the measurements. The work was carried out at the Joint Institute of Nuclear Research. Orig. art. has: 1 figure and 1 table. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 28Dec64 / ORIG REF: 005 / OTH REF: 003

Card 1/1 pla

L 23729-66 EWT(m) DIAAP JD/JG

ACC NR: AP6014811 SOURCE CODE: UR/0367/65/001/002/0191/0197

AUTHOR: Vitman, V. D.; Voinova, N. A.--Voynova, N. A.; Dzhelepov, B. S.

ORG: All-Union Institute of Metrology im. D. I. Mendeleyev (Vsesoyuznyy institut metrologii); Physicotechnical Institute im. A. F. Ioffe AN SSSR (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: New data on the decay scheme of Re sup 188

SOURCE: Yadernaya fizika, v. 1, no. 2, 1965, 191-197

TOPIC TAGS: rhenium, spectrometer, thermal neutron, osmium, radioactive decay

ABSTRACT: The energies and relative intensities of γ-lines in Re^{188} were determined using an Elotron magnetic γ-spectrometer. Metallic rhenium activized by thermal neutrons was used as a source. In all, 23 γ-lines were observed in the spectrum; of these the lines with energies of 717, 1019, 1175, 1193, 1322, 1460, 1656, 1675, 1852, 1869, and 2026 KEV were found for the first time. The decay scheme of the Re^{188} was considered in comparison with the previously suggested schemes, and three new levels with energies of 2026, 1828, and 1809 KEV were introduced. The values of the quantum characteristics of these levels were discussed. The intensities of β-transitions to Os^{188} levels were determined from the balance of γ-transition intensities. Orig. art. has: 4 figures and 1 table. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 05Aug 64 / ORIG REF: 001 / OTH REF: 007

Card 1/1

L 25743-66 EWT(m) DIAAP JD/JG

ACC NR: AP6016389 SOURCE CODE: UR/0048/65/029/007/1079/1082

AUTHOR: Dzhelepov, B. S.; Kaufman, V. Z.; Kraft, O. Ye.; Naumov, Yu. V.

ORG: none

TITLE: Measurement of beta sup plus gamma-coincidences during the decay of $Tu^{166} \xrightarrow{\varepsilon,\beta^+} Er^{166}$

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no.7, 1965, 1079-1082

TOPIC TAGS: radioactive decay, spectrometer, positron, gamma radiation, ytterbium, tantalum, proton, beta spectrum, thulium, erbium, coincidence counting

ABSTRACT: **The article is a description of an experiment in which a $\beta\gamma$-spectrometer was used to measure the coincidences of positrons of the hard component of the β^+-spectrum of Tu^{166} with γ-radiation. The source of Tu^{166} was Yb^{166} contained in an ytterbium fraction. The latter was emitted from a tantalum target irradiated with 660 Mev protons. An analysis of the results is carried out to determine the decay and coincidences at various** quantum levels. The authors thank Ye. P. Grigor'yev and V. M. Mikhaylov for valuable discussions, and also Zh. Zhelev, A. V. Kudryavtseva, and G. A. Mironov for assistance in receipt of the sources. Orig. art. has: 3 figures and 3 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 001

Card 1/1 BK

L 25763-66 EWT(m) DIAAP JD/JG

ACC NR: AP6016390 SOURCE CODE: UR/0048/65/029/007/1098/1102

AUTHOR: Avotina, M. P.; Grigor'yev, Ye. P.; Dzhelepov, B. S.; Zolotavin, A. V.

ORG: Scientific Research Physics Institute, Leningrad State University (Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta)

TITLE: Auger electrons of Er sup 160 and Ho sup 160

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 7, 1965, 1098-1102

TOPIC TAGS: erbium, holmium, radioactive decay, dysprosium, proton, tantalum, spectrometer, radioisotope, electron

ABSTRACT: This article is a description of an experiment intended for further investigation of the proposed existence of a second exited level of Ho^{160}. In the experiment the K-capture during the decay of Er^{160} was determined according to the intensity of Auger K-LL-electrons of holmium and dysprosium occuring during the decay of Er^{160} and Ho^{160}. The Er^{160} was obtained by irradiation of tantalum with protons with an energy of 660 Mev and subsequent chemical and chromatic separation of the products of the reaction. The measurements were made on a β-spectrometer with double focusing at an angle of $\pi\sqrt{2}$. The measurements were made 50-70 hours after separation of the erbium fraction from the rare earths; therefore, a state of dynamic equilibrium was set up

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L 25763-66

ACC NR: AP6016390

during the time of the experiment between the various isotopes making up the decay chain. Analysis of the results shows that in spite of the high degree of accuracy in the determination of the intensity of Auger electrons, it is not possible to draw any conclusions regarding the nature of electron capture in Er^{160}. It is stated, however, that the results of the experiment do not contradict the earlier conclusion that it is necessary to introduce a second excited level of Ho^{+} with the characteristics 0^{+} and 1^{+}. It is concluded that the 1^{+} level must be close to the basic state of Ho^{+}, and apparently the decay of Er^{160} takes place at this level. Orig. art. has: 3 figures, 2 formulas, and 3 tables. [JPRS]

SUB CODE: 20, 18 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 002

Card 2/2 cc

L 25762-66 EWT(m)/EWP(t) DIAAP/IJP(c) JD

ACC NR: AP6016392 SOURCE CODE: UR/0048/65/029/007/1107/1111

AUTHOR: Arutyunyan, E. A.; Dzhelepov, B. S.; Khol'nov, Yu. V.; Shchukin, G. Ye.

ORG: none

TITLE: Spectrum of Sb sup 122 gamma-rays

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 7, 1965, 1107-1111

TOPIC TAGS: gamma ray, antimony, gamma spectrum, gamma spectrometer, tin, tellurium

ABSTRACT: **In this article are presented an experiment and results from it for the investigation of the γ-ray spectrum of Sb^{122} using the electron output and a magnetic γ-spectrometer for taking the measurements. The energies and intensities of the γ-rays are compared with those obtained by other methods. The data for the first four basic γ-transitions agree with preceding work. The new transitions are compared favorably with Sn^{122} and Te^{122} but with admission of the necessity of further study. It is also noted that the intensities of the β-components at the 1340 and** 1095 kev levels may not be taken as accurate. The authors thank V. F. Rodionov and T. I. Sidorova for their assistance with the measurements, and also N. N. Zhukovskiy and A. G. Maloyan for providing instruments for the investigation of a segment of the gamma-ray spectrum of Sb^{122}. Orig. art. has: 3 figures and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 004

Card 1/1

L 25761-66 JD/JG

ACC NR: AP6016393 SOURCE CODE: UR/0048/65/029/007/1112/1120

AUTHOR: Balalayev, V. A.; Dzhelepov, B. S.; Meshter, A.; Shestopalova, S. A.

ORG: All-Union Scientific Research Institute of Metrology im. D. I. Mendeleyev (Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii)

TITLE: Conversion electron spectrum of Eu sup 146 in the energy range 750-1550 kev

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 7, 1965, 1112-1120

TOPIC TAGS: europium, electron spectrum

ABSTRACT: This article is a complete presentation of results from an experiment reported on earlier in part at the VII Congress at Dubna in 1964. A segment of the spectrum of Eu^{146} conversion electrons was studied in the energy range from 750 to 1550 kev. The article is primarily made up of graphs and tables representing the data from the experiment with a brief description of the setup and some discussion of the results. It was concluded that a) all the conversion lines observed by other researchers were observed in the present experiment; b) 25 new transitions were discovered; c) all the transition energies in this range were more precisely determined. The authors thank Zh. T. Zhelev for his assistance in the receipt of the sources; L. N. Moskvin for the cleansing of the preparations; and I. F. Uchevatkin, V. D. Vitman, A. I. Medvedev and L. A. Shalayeva for their assistance with the measurements. Orig. art. has: 8 figures and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 001

Card 1/1 CC

L 25760-66 EWT(m) DIAAP JD/JG

ACC NR: AP6016394 SOURCE CODE: UR/0048/65/029/007/1127/1130

AUTHOR: Arutyunyan, E. A.; Dzhelepov, B. S.; Khol'nov, Yu. V.

ORG: none

TITLE: Gamma-ray spectrum of Ce sup 143

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 7, 1965, 1127-1130

TOPIC TAGS: cerium, gamma spectrum, gamma spectrometer, sodium, lanthium, radioisotope

ABSTRACT: This article is a presentation of the exact data from an experiment reviewed in brief in an earlier publication. The γ-spectrum of Ce^{143} was investigated using a γ-spectrometer. Five series of measurements were taken with sources having an activity on the order of 1 curie. In the experiment a number of new γ-transitions were detected: 443, 535, 590, 793, 1000, and 1295 kev. All the new transitions, with the exception of 443 and 793 kev, require the introduction of additional levels. It was also noted that during the experiment isotopes Na^{24} and La^{140} were detected, measured throughout the energy range, and excluded from the Ce^{143} spectrum. The authors thank G. Ye. Shchukin, T. I. Sidorova and V. F. Rodionov for their assistance with the measurements. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 20, 18 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 003

Card 1/1

L 26657-66 EWT(m) DIAAP

ACC NR: AP6017116 SOURCE CODE: UR/0048/65/029/012/2163/2167

AUTHOR: Dzhelepov, B. S.; Kraft, O. Ye.; Naumov, Yu. V. 56 13

ORG: none

TITLE: Magnetic coincidence beta gamma spectrometer [This paper was presented at the 15th Annual Conference on Nuclear Spectroscopy and the Structure of the Atomic Nucleus, held in Minsk from 25 January to 2 February 1965.]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 12, 1965, 2163-2167

TOPIC TAGS: spectrometer, coincidence counting, beta spectrum, electronic circuit, gamma ray, electron beam, positron

ABSTRACT: To overcome some of the difficulties involved in using ordinary spectrometers for the study of gamma-ray coincidence with low intensity hard components of beta spectra, a special magnetic $\beta\gamma$-spectrometer was designed and built at the Leningrad University. The schematic diagram of the instrument is shown in the enclosure. An 8-bladed fan-shaped diaphragm is used to separate the electron and positron beams. The electronic circuit, the operation of the instrument, and its capabilities are described, as are a number of experiments conducted. Results are plotted in curves and analyzed.
The authors thank Yu. G. Zhukovskiy for participating in the early design of the instrument and to V. Z. Kaufman, student at the Leningrad State University, for assisting in its construction.

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L 266 -66

ACC NR: AP6017116

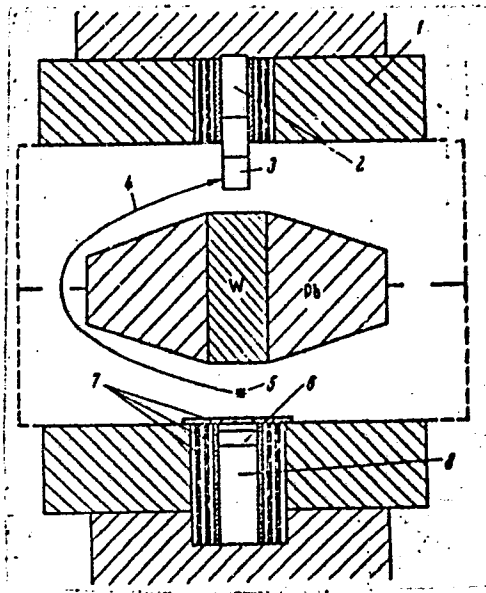

Diagram of the spectrometer: 1) magnet poles, 2) FEU-31 photomultiplier, 3) β crystal, (stilbene) 4) typical electron trajectory, 5) source, 6) γ-crystal (NaI) 7) magnetic shielding for photomultiplier, 8) FEU-35 photomultiplier, dashed lines-vacuum chamber

Orig. art. has: 7 figures. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 003

Card 2/2 FV

L 26658-66 EWT(m) DIAAP

ACC NR: AP6017115 SOURCE CODE: UR/0048/65/029/012/2157/2162

AUTHOR: Dzhelepov, B. S.; Prikhodtseva, V. P.; Tishkin, P. A.; Shishelov, I. A.

ORG: Scientific Research Institute of Physics, Leningrad State University (Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta); Radium Institute AN SSSR (Radiyevyy institut AN SSSR)

TITLE: Duplexed toroidal beta-spectrometer for studying ee- and beta e-coincidences [This paper was presented at the 15th Annual Conference on Nuclear Spectroscopy and the Structure of the Atomic Nucleus, held in Minsk from 25 January to 2 February 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 12, 1965, 2157-2162

TOPIC TAGS: spectrometer, radioactive decay, vacuum chamber

ABSTRACT: The Leningrad University and the Radium Institute have built duplexed toroidal beta-spectrometers for the purpose of studying the decay schemes of radioactive nuclei by the coincidence technique. The focussing system used is based on the principle developed by Nielsen and Kofoed-Hansen. This design affords several advantages for such studies, and experiments already carried out show that the instrument can be used to study complex decay schemes.

The vacuum chamber (2×10^{-4} mm Hg) has three brass cylinders. The two outer ones are mounted on cradles that move on rails so that they can be pulled away from the stationary center one. Electromagnets, diaphragms, and holders

Card 1/3

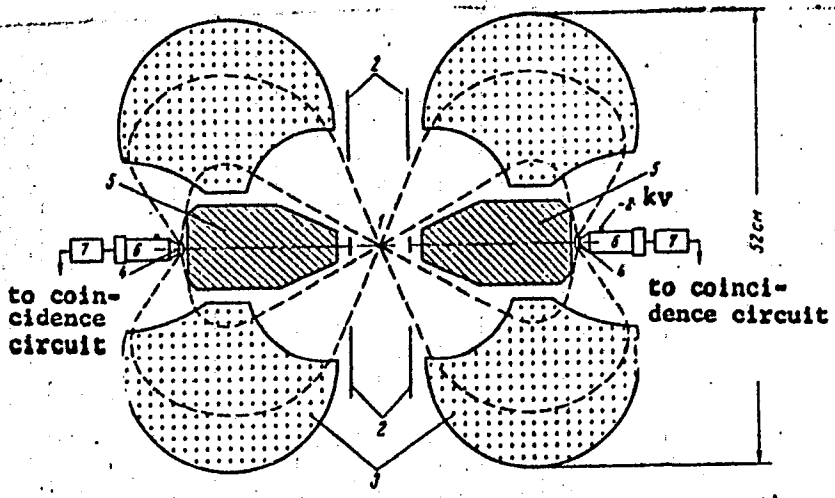

Diagram of the spectrometer in the plane of the pole plates: 1) source, 2) diaphragms, 3) pole plates, 4) receiver slots, 5) lead absorbers, 6) photomultipliers, 7) pulse amplitude limiters (outputs go to the coincidence circuit).